Kepware Products for Windows 95TM, 98TM, 2000TM, NTTM, and XPTM

DCOM Configuration for KepserverEx



KTSM-00010

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Overview

This document is intended to provide the user with information and instruction on how to configure the Distributed Component Object Model (DCOM) for use with KepserverEx. Since Windows NT/ 2000 security is more advanced and options differ from Windows 95/98, we have broken this document down into two components. The first half of the document covers configuring DCOM for Windows NT/2000 and the second half covers configuring DCOM for 95/98.

Note1: In Windows NT DCOM may function differently from one Service Pack to another. Service Pack 6 was used in creating this document and therefore it is suggested that Service Pack 6 be installed before attempting the following procedures.

Note2: For Windows NT/2000 PC's you must have Internet Explorer 5.0 or 5.5 installed. **Do not install Internet Explorer 6.0**.

Note2: In our DCOM testing we have experienced instances where DCOM configuration changes do not take effect until the PC has been rebooted. If you have DCOM settings configured correctly but cannot establish a remote connection, you may want to consider rebooting both the server and client PCs.

Warning: The following instructions for DCOM configuration allow for **all access by all users** for all DCOM components. If security is a factor with your applications, you must set DCOM security settings appropriately. We recommend proving connectivity with open access before reducing access privileges to specific users at the application level.

Configuring DCOM for Win NT/2000

There are minor variations between configuring DCOM for local or remote Connections to the KepserverEx. The first part of this document will explain the steps required to prepare for DCOM configuration on the remote PC.

Preparing the Remote PC

If the intended *client* machine does not have a registered version of the KepserverEx on it, then you must take the initial step of registering the server on that machine. The following steps explain this procedure.

- 1. On the KepserverEx pc, open the server's root directory \KepserverEx, and find the file called "opc_remote.reg." Make a copy of this file and take it to the remote PC.
- 2. On the intended remote client machine, paste this file on to your C: drive (or any available hard drive on that machine).
- 3. Right click on this file and choose <u>E</u>dit on the drop down menu.

互 OPC_Remote.reg - Notepad 📃 🗌
Eile Edit Format Help
REGEDIT4
[HKEY_CLASSES_ROOT\AppID\{6e6170f0-ff2d-11d2-8087-00105aa8f840}] @="KEPware Enhanced OPC/DDE Server"
[HKEY_CLASSES_ROOT\AppID\{6e6170f0-ff2d-11d2-8087-00105aa8f840}] "RemoteServerName"="KEPWARE"
[HKEY_CLASSES_ROOT\CLSID\{6e6170f0-ff2d-11d2-8087-00105aa8f840}] @="KEPware Enhanced OPC/DDE Server"
[HKEY_CLASSES_ROOT\CLSID\{6e6170f0-ff2d-11d2-8087-00105aa8f840}] "AppID"="{6e6170f0-ff2d-11d2-8087-00105aa8f840}"
[HKEY_CLASSES_ROOT\CLSID\{6e6170f0-ff2d-11d2-8087-00105aa8f840}\ProgID] @="KEPware.KEPServerEx.V4"
[HKEY_CLASSES_ROOT\CLSID\{6e6170f0-ff2d-11d2-8087-00105aa8f840}\RemoteServer]
[HKEY_CLASSES_ROOT\KEPware.KEPServerEx.V4] @="KEPware Enhanced OPC/DDE Server"
[HKEY_CLASSES_ROOT\KEPware.KEPServerEx.V4\CLSID] @="{6e6170f0-ff2d-11d2-8087-00105aa8f840}"
[HKEY_CLASSES_ROOT\KEPware.KEPServerEx.V4\OPC]
[HKEY_CLASSES_ROOT\KEPware.KEPServerEx.V4\OPC\Vendor] @= "KEPware"

- In the first few lines of this file you should see "RemoteServerName"="KEPWARE". Replace "KEPware"' with that remote client's machine name = "[your machine name]".
- 5. Save the changes to the file and exit.
- 6. Double click on the file name to register KepserverEx server. A message box will then be displayed on the screen to verify that the information was installed correctly in the registry. The client machine may now be configured to connect via DCOM to the remote server machine.

Note3: You may need to place two up-to-date OPC files (from our disc or the OPC foundation) into "System 32" file. These files include **opccomn_ps.dll** and **opcproxy.dll**. You may have to register them (ex. C:\WINNT\SYSTEM32\regsvr32 opccomn_ps.dll) at the dos command prompt. Another way to get these files is to install the server on the remote machine.

- opccomn_ps.dll
- opcproxy.dll

Editing the DCOM Configuration

The following steps explain how to configure DCOM for remote or local connection to the KepserverEx.

1. Select the start button from the Desktop task bar and click <u>Run</u>... on the pop-up menu and run DCOMCNFG.EXE.

	💼 Programs 🔸	Run	? ×
ion	Documents		pe the name of a program, folder, or document, and indows will open it for you.
stat	Settings	<u>0</u> pen: d	comenfg
Work	🚷 Eind 🔸	Ā	Run in Separate Memory Space
Ę	🤣 <u>H</u> elp		OK Cancel Browse
swop	🚈 <u>B</u> un 📐		
M	Shut Down		

2. A general DCOM configuration window will appear with four available pages. The foremost page is Applications, and it lists all applications that can enable DCOM. The next three pages are default configurations used for all the listed applications. Changes made to these pages affect DCOM applications globally. The approach of these instructions, security wise, is to allow all network users access to all DCOM applications. After a connection has been proven, the user may then choose individual applications from the list and customize their DCOM security properties for more control.

Distributed COM Configuration Properties			? ×	
Applications	Default Properties	Default Security	Default Protocols	
Applications	3:			
KEPware E logagent	nhanced UPC/DDE	Server		
Media Play	ver			
Microsoft L Microsoft E	Sup Gallery Excel 97 Application			
Microsoft N	lap			
Microsoft V	Vord Basic			

Note4: It is very important to make sure that the Apply button is selected after changes are made in a DCOM settings page.

DCOM Config (known as DCOMCNFG.EXE) is a utility that can be used to secure Distributed COM (DCOM) objects that have been created. 3. Under the Default Properties tab, "Enable Distributed COM on this computer" should be checked. Also, ensure that the "Default Authentication level:" is set to "Connect" and the "Default Impersonation Level:" is set to "Identify". Click the Apply button if possible to administer the changes

Distributed COM Configuration Properties	? ×
Applications Default Properties Default Security Default Protocols	
Enable Distributed COM on this computer	
Enable COM Internet Services on this computer	
Default Distributed COM communication properties	
The Authentication Level specifies security at the packet level.	
Default Authentication Level:	
Connect	
The Impersonation Level specifies whether applications can determine who is calling them, and whether the application can do operations using the client's identity.	
Default Impersonation Level:	
Identify	
Provide additional security for reference tracking	
OK Cancel App	ly.

4. Select the Default Security tab and click the Edit Default... button for "Default Acc<u>ess</u> Permissions".

)istributed COM Configuration Properties 🛛 🔹 🛛 🛛			
Applications Default Properties	Default Security	Default Protocols	
Default Access Permissions -			- 1
You may edit who is allowed to provide their own settings	o access applicatio	ins that do not	
		Edit Default	

 Add domain group "Everyone" with "Allow Access" to the permission list. Then select OK. If you are planning to run the server as a service then you will also need to add "System" with "Allow Access".

Registry Val	ue Permissions	×
Registry Value <u>O</u> wner: ethan <u>N</u> ame:	: DefaultAccessPermission (Ethan Olsen)	
🚱 Eiveryone		Allow Access
	Type of Access: Allow Access	
ок	Cancel Add	<u>R</u> emove <u>H</u> elp

6. Now click the Edit Default... button for "Default Launch Permissions".

Distributed COM Configuration Properties	×
Applications Default Properties Default Security Default Protocols	
Default Access Permissions	
You may edit who is allowed to access applications that do not provide their own settings	
Edit Default	
Default Launch Permissions	
You may edit who is allowed to launch applications that do not provide their own settings.	
Edit Default	

7. Add domain group "Everyone" with "Allow Launch" to the permission list. Then select OK.

Registry Value Permissions	×
Registry Value: DefaultLaunchPermission <u>O</u> wner: Account Unknown <u>N</u> ame:	
ETHAN_NT2\Administrators	Allow Launch
🧐 Everyone	Allow Launch
INTERACTIVE	Allow Launch
SYSTEM	Allow Launch
Type of Access: Allow Launch	
OK Cancel Add	<u>R</u> emove <u>H</u> elp

8. Choose the Applications tab and double click on "KEPware Enhanced OPC/DDE Server". This will access the application's specific DCOM properties.

Distributed COM Configuration Properties			? ×	
Applications	Default Properties	Default Security	Default Protocols	h
Applications	: inhanced OPC/DDE	Server		
logagent Media Play	er			
Microsoft C Microsoft E	lip Gallery xcel 97 Application			
Microsoft M	1ap Vord Basic			12
				and the second second

9. In the KepserverEx's application specific DCOM window, choose the Location tab.

KEPware Enhanced	OPC/DDE Server Properties 2			
General Location Security Identity Endpoints				
General properties of th	is DCOM application			
Application name:	KEPware Enhanced OPC/DDE Server			
Application type:	remote or local server			
Authentication Level:	Default			
Local path:	c:\program files\kepserverex_r\servermain.exe			
Remote computer:	REMOTE_NT			

10. Most clients will allow you to connect directly to the remote PC by entering the Name of the PC in the server connection dialog box. For those applications that do not allow that Select "Run application on the <u>following computer</u>". Then browse for the remote machine that contains the KepserverEx application and select Apply. In this example the machine name is REMOTE_NT. For local connections you will leave "Run application on the computer where the data is located" checked.

Note5: See Kepware's Client Connectivity guide for information on how specific clients connect remotely to KepserverEx.

Warning: This dialog box will allow you to check more then one check box. When this happens it produces an error state. You must make sure that one and only one box is checked.

KEPware Enhanced OPC/DDE Server Properties 💦 🔀
General Location Security Identity Endpoints
The following settings allow DCOM to locate the correct computer for this application. If you make more than one selection, then DCOM uses the first applicable one. Client applications may override your selections.
Run application on the computer where the data is located
Run application on this <u>c</u> omputer
Run application on the <u>f</u> ollowing computer:
REMOTE_NT
OK Cancel Apply

11. Choose the Security tab and ensure that the radio buttons for the Access permissions are set to default. Apply these changes.

KEPware Enhanced OPC/DDE Server Properties 👘 🛛 🏼
General Location Security Identity Endpoints
Use default access permissions
O Use custom access permissions
You may edit who can access this application.
Edit
Use default launch permissions
⊂ O Use custom launch permissions
You may edit who can launch this application.
Edit
 Use default configuration permissions Use custom configuration permissions You may edit who can change the configuration information for this application.

12. The final step is to select the Identity tab from the application specific DCOM pages, and ensure that the "Interactive user" radio button is selected. Then select the Apply button if necessary. Select OK to exit the application specific DCOM window, and then choose OK again to exit the general DCOM window

KEPware Enhanced OPC/DDE Server Properties	? ×
General Location Security Identity Endpoints	
Which user a count do you want to use to run this application?	
The interactive user	
O The Jaunching user	
O This <u>u</u> ser:	
User:	
Rassword:	
Confirm Password:	
C The <u>Sy</u> stem Account (services only)	
OK Cancel Apply	,

Configuring DCOM for Win XP

There are minor variations between configuring DCOM for local or remote Connections to the KepserverEx. The first part of this document will explain the steps required to prepare for DCOM configuration on the remote PC. You will make the same modifications to all PC's that are running this Operating System and that will be involved in the connection to the server. If you are using another Operating Systems then see that section for instructions.

Running the DCOM Configuration Utility

Starting Windows Components like DCOM Configuration are slightly different on Windows XP compared to Windows NT or Windows 2000.

1. Type DCOMCNFG in the Start Menu Run Dialog to launch DCOM Properties (XP launches Component Services, DCOM Properties are located here).

Run	<u>? ×</u>
-	Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.
Open:	dcomenfg
	OK Cancel Browse

2. Component Services is the home page of the DCOMCNFG run command.

🐞 Component Services		
🐌 File Action View Window Help		_B×
← → 🖪 🗟 😫		
Console Root	Console Root	
Event Viewer (Legal)	Name	
Evenc viewer (Local)	Component Services	
	Services (Local)	
	SAR SOL HOSS (ESSEN)	

3. Click on the Plus signs next to Component Services, Computers, and My Computer to expand the branches of the directory tree. This page shows My Computer (Used for accessing Default DCOM Properties), and the folder which contains all the DCOM objects.



4. Right click on My Computer on the Component Services page and select Properties. It will bring you to the General tab of the DCOM properties for this PC.

My Computer Properties			?×
Default Protocols General	MSDTC Options	Default COM Securi Default Properties	v
GOOCH_XP			
Description:			
	ОК	Cancel App	aly

5. Select the Default Properties. Verify that "Enable Distributed COM on this computer" is checked. The "Default Authentication Level" should be set to Connect and the "Default Impersonation Level" should be set to Identify.

My Computer Propert	ies		? ×
Default Protocols General	MSDTC Options	Default COI Default Pr	M Security roperties
🔽 Enable Distributed	d COM on this compute	ſ	
🔲 Enable COM Inter	met Services on this co	omputer	
Default Distributed (COM Communication P	roperties	
The Authentication	Level specifies securiț	y at the packet lev	/el.
Default Authentic	ation Level:		
Connect		•	
The impersonation who is calling them, using the client's ide	level specifies whether , and whether the appli entity.	applications can o cation can do ope	Jetermine rations
Default Imperson	ation Level:		
Identify		•	
Security for reference and that the default	ce tracking can be pro t impersonation level is ional security for referer	vided if authentica not anonymous. nce tracking	tion is used
	OK	Cancel	Apply

6. Next, Select the Default Protocols tab. On this tab you should see the data transfer protocols that are currently selected for this PC. You can add more from here if needed.

My Computer Properties	<u>? ×</u>
General Options Default Protocols MSDTC	Default Properties
Add Remove Move Up Mov	re Down Properties
Description The set of network protocols available to DCOM ordering of the protocols reflects the priority in w with the top protocol having first priority.	4 on this machine. The which they will be used, Cancel Apply

7. Select the Default COM Security tab and click the Edit Default... button for "Access Permissions".

My Computer Properties			? ×
General	Options	Default P	roperties
Default Protocols	MSDTC	Default CO	M Security
Access Permissions			
You may edit who is al provide their own setti	llowed to access a ngs.	applications that d	lo not
		Edit D	efault
Launch Permissions			
You may edit who is al provide their own setti	llowed to launch a ngs.	pplications that d	o not
		Edit D	efault
	ОК	Cancel	Apply

8. You may or may not see Groups and Users listed for the Default Access Permissions. You will need to add them by clicking on the Add... button.

cess Permission		?
Default Security		
Group or user names:		
Everyone		
	Add	Remove
Permissions for Everyone	Allow	Deny
Access Permission		L

9. Once the Select Users or Groups window is open, click the Advanced... button.

Select Users or Groups	? ×
Select this object type:	
Users, Groups, or Built-in security principals	Object Types
From this location:	
KEPDOMAIN	Locations
Enter the object names to select (<u>examples</u>):	
	Check Names
Advanced OK	Cancel

10. Set your search criteria and then click Find Now to list all of the Users and Groups that meet your selection criteria.

Select Users or Groups	<u>? ×</u>
Select this object type:	
Users, Groups, or Built-in security principals	Object Types
From this location:	
KEPDOMAIN	Locations
Common Queries	
Name: Starts with	Columns
Description: Starts with	Find Now
Disabled accounts	Stop
Non expiring password	
Days since last logon:	
	OK Cancel
Name (RUN) In Folder	

11. From the list, select all of the users or groups that you wish to add and click OK.

elect Users or Gi	oups	<u>? ×</u>
Select this object ty	ире:	
Users, Groups, or I	Built-in security principals	Object Types
From this location:		
KEPDOMAIN		Locations
Common Queries		
Name:	itarts with 💌	Columns
Description:	Tests with w	Find Now
Description.	itaits with 🔄	
🗖 Disabled ac	counts	Stop
🔲 Non expiring) password	
Diaus since last		26
D Gya an Do Idae		
		OK Consel
		OK Cancel
Name (RDN)	In Folder	OK Cancel
Name (RDN)	In Folder KEPDOMAIN	OK Cancel
Name (RDN) Administrator ANONYMOU	In Folder KEPDOMAIN	OK Cancel
Name (RDN) Administrator ANONYMOU anthony	In Folder KEPDOMAIN KEPDOMAIN	OK Cancel
Name (RDN) Administrator ANONYMOU anthony Authenticated	In Folder KEPDOMAIN KEPDOMAIN	OK Cancel
Name (RDN) Administrator ANONYMOU anthony Authenticated BATCH Chris	In Folder KEPDOMAIN KEPDOMAIN	OK Cancel
Name (RDN) Administrator ANONYMOU Anthony Authenticated BATCH Chris corky	In Folder KEPDOMAIN KEPDOMAIN KEPDOMAIN KEPDOMAIN	OK Cancel
Name (RDN) Administrator ANONYMOU Anthony Authenticated Authenticated BATCH Chris Chris Corky DIALUP	In Folder KEPDOMAIN KEPDOMAIN KEPDOMAIN KEPDOMAIN	OK Cancel
Name (RDN) Administrator ANONYMOU Authony Authenticated BATCH Chris Corky Corky DIALUP Domain Admins	In Folder KEPDOMAIN KEPDOMAIN KEPDOMAIN KEPDOMAIN	OK Cancel
Name (RDN) Administrator ANONYMOU Anthony Authenticated Authenticated Authenticated Chris corky Chris Corky DIALUP Domain Admins Domain Guests	In Folder KEPDOMAIN KEPDOMAIN KEPDOMAIN KEPDOMAIN KEPDOMAIN	OK Cancel

12. You will have to add Everyone and System, like you did with the other Operating Systems. In addition, you have to add Network in Windows XP Operating Systems.



- 13. Click OK when you are done with Access Permissions and then repeat the same process with Launch Permissions.
- 14. Next select and expand the DCOM Config folder in the directory tree.



15. Scroll down the list of applications that support DCOM until you see the "Kepware Enhanced OPC/DDE Server".

16. Right click on the server object and select Properties.



17. Right clicking on a DCOM object opens the General tab of the Property window for that object.

KE	ware Enhanced OPC/	DDE Server Properties		
0	General Location Security Endpoints Identity			
	General properties of th	is DCOM application		
	Application Name:	KEPware Enhanced OPC/DDE Server		
	Application ID:	{6E6170F0-FF2D-11D2-8087-00105AA8F840}		
	Application Type:	Local Server		
	Authentication Level:	Default		
	Local Path:	C:\Program Files\KEPServerEx\ServerMain.exe		
	L			
_				
		OK Cancel Apply		

18. Select the Identity tab. The Identity should be set to "The interactive user"

KEPware Enhanced OPC/DI	DE Server Pr	operties		? ×
General Location Securit	y Endpoints	Identity		
Which user account do you	Which user account do you want to use to run this application?			
 The interactive user The launching user. 				
O This user.				
User:			Browse.	
Password:]	
Confirm password:]	
C The system account (se	ervices only).			
	ОК	Cance	el Ap	ply

19. Select the Location tab. For local software client connections you will select "Run application on this computer". You will make the same selection if you are connecting the client software to a mix of multiple remote or multiple remote and local servers. If you want to limit the software client connections to only one remote server location then select "Run this application on the following computer" and then enter or browse and select the name of the PC that the remote server is running on.

Warning: This dialog box will allow you to check more then one check box. When this happens it produces an error state. You must make sure that one and only one box is checked.

KEPware Enhanced OPC/DDE Server Properties			
General Location Security Endpoints Identity			
The following settings allow DCOM to locate the correct computer for this application. If you make more than one selection, then DCOM uses the first applicable one. Client applications may overide your selections.			
Run application on the computer where the data is located.			
Run application on this computer.			
Run application on the following computer:			
Browse			
OK Cancel Apply			

20. Select the Security tab. Launch and Access Permissions should be set to "Use Default" and Configuration Permissions will be set to "Customize".

KEPware Enhanced OPC/DDE Server Properties	<u>?</u> ×
General Location Security Endpoints Identity	
Launch Permissions	
 Use Default 	
C Customize	E dit
Access Permissions	
Use Default	
C Customize	Edit
Configuration Permissions	
C Use Default	
 Customize 	Edit
OK Car	ncel Apply

21. Select the Endpoints tab. This should be set to use the "default system protocols".

KEPware Enhanced OPC/DDE Server Properties
General Location Security Endpoints Identity
DCOM Protocols and endpoints:
Contraction of the second seco
Add Remove Properties Clear Description
OK Cancel Apply

22. Click OK to save the DCOM settings.

At this point you should be ready to connect clients to the server.

Configuring DCOM for Win 95/98

There are minor variations between configuring DCOM for local or remote Connections to the KepserverEx. The first part of this document will explain the steps required to prepare for DCOM configuration on the remote PC.

Preparing Win95/98 for DCOM

Windows 95 / 98 is, by default, set for share-level access control. It must be set for user level.

- 1. Choose Start/Settings/Control Panel.
- 2. Open the Network applet in the Control Panel, and select the Access Control tab.
- 3. Select User- Level Access Control and click OK.

Before you can use Windows 95 / 98 DCOM, the machine must be configured to run DCOM applications. This requires a few more steps than you would normally take with Windows NT or Windows 2000 DCOM setup. Also, unlike Windows NT and Windows 2000, which allow a client to launch a server remotely, it is absolutely necessary for the server component (KepserverEx) to be running before a client can connect to it in Windows 95/98.

Preparing the Remote PC

If the intended *client* machine does not have a registered version of the KepserverEx on it, then you must take the initial step of registering the server on that machine. The following steps explain this procedure.

- 1. On the KepserverEx pc, open the server's root directory \KepserverEx, and find the file called "opc_remote.reg." Make a copy of this file and take it to the remote PC.
- 2. On the intended remote client machine, paste this file on to your C: drive (or any available hard drive on that machine).
- 3. Right click on this file and choose <u>E</u>dit on the drop down menu.

```
🖉 OPC_Remote.reg - Notepad
                                                                             Eile Edit Format Help
REGEDIT4
[HKEY_CLASSES_ROOT\AppID\{6e6170f0-ff2d-11d2-8087-00105aa8f840}]
@="KEPware Enhanced OPC/DDE Server"
[HKEY_CLASSES_ROOT\APPID\{6e6170f0-ff2d-11d2-8087-00105aa8f840}]
"RemoteServerName"="KEPWARE"
[HKEY_CLASSES_ROOT\CLSID\{6e6170f0_ff2d-11d2-8087-00105aa8f840}]
@="KEPware Enhanced OPC/DDE Server
[HKEY_CLASSES_ROOT\CLSID\{6e6170f0-ff2d-11d2-8087-00105aa8f840}]
 AppID"="{6e6170f0-ff2d-11d2-8087-00105aa8f840}
[HKEY_CLASSES_ROOT\CLSID\{6e6170f0-ff2d-11d2-8087-00105aa8f840}\ProgID]
@="KEPware.KEPServerEx.V4
[HKEY_CLASSES_ROOT\CLSID\{6e6170f0-ff2d-11d2-8087-00105aa8f840}\RemoteServer]
[HKEY_CLASSES_ROOT\KEPware.KEPServerEx.V4]
@="KEPware Enhanced OPC/DDE Server
[HKEY_CLASSES_ROOT\KEPware.KEPServerEx.V4\CLSID]
@="{6e6170f0-ff2d-11d2-8087-00105aa8f840}
[HKEY_CLASSES_ROOT\KEPware.KEPServerEx.V4\OPC]
[HKEY_CLASSES_ROOT\KEPware.KEPServerEx.V4\OPC\Vendor]
@= "KEPware"
```

- 4. In the first few lines of this file you should see "RemoteServerName"="KEPWARE". Replace "KEPware"' with that remote client's machine name = "[your machine name]".
- 5. Save the changes to the file and exit.
- 6. Double click on the file name to register KepserverEx server. A message box will then be displayed on the screen to verify that the information was installed correctly in the registry. The client machine may now be configured to connect via DCOM to the remote server machine.

Note1: You may need to place two up-to-date OPC files (from our disc or the OPC foundation) into the "System 32" file. These files include opccomn_ps.dll and opcproxy.dll. You may have to register them (ex. C:\WINNT\SYSTEM32\regsvr32 opccomn_ps.dll) at the dos command prompt. Another way to get these files is to install the server on the remote machine.

- opccomn_ps.dll
- opcproxy.dll

Note2: If you are setting up Windows 98, skip to "Editing the DCOM Configuration"...

Adding DCOM Support to Win 95

 For Windows 95 users, you must obtain both DCOM95.EXE and DCM95CFG.EXE (if you don't have them already) in order to configure DCOM since it is not inherent to Windows 95. You can acquire these files from the following location:

http://www.microsoft.com/com/dcom/95/download.asp (Microsoft's web site)

DCOM95.EXE is also available on the Microsoft Visual Basic CD-ROM 5.0 (Enterprise, Professional or Standard editions) in the \Pro\Tools\DCOM95 directory

- 8. To install DCOM95, double-click DCOM95.EXE. You must then reboot your system after the install to secure the changes. (NOTE: If you plan to install DCM95CFG.EXE then it would be best to reboot after both installations have been completed)
- 9. Double –click to install DCM95CFG.EXE (this will allow you to run the DCOMCNFG.EXE, which you will use later.) You then must reboot the machine after the installation is complete.

Editing the DCOM Configuration

- 1. Select the start button from the Desktop task bar and click <u>Run...</u> on the pop-up menu.
- 2. Run DCOMCNFG.EXE.



DCOM Config (known as DCOMCNFG.EXE) is a utility that can be used to secure Distributed COM (DCOM) objects that have been created. 3. A general DCOM configuration window will appear with three available pages. The foremost page is Applications, and it lists all applications that can enable DCOM. The next two pages are default configurations used for all the listed applications. Changes made to these pages affect DCOM applications globally. Pertaining to security, the approach of the following instructions is to allow all network users access to all DCOM applications. After a connection has been proven; the user may then choose individual applications from the list and customize their DCOM security properties for more control.

Distributed COM Configuration Properties	?×
Applications Default Properties Default Security	
, , , , , , , , , , , , , , , , , , , ,	
Applications:	
Bitmap Image	
EventSystemTier2 HTML Application	
Imaging for Windows 1.0	
Internet Explorer(Ver 1.0)	
KEPware Enhanced UPC/DDE Server	
Microsoft Clin Galleru	
Microsoft NetMeeting Manager Object	
Microsoft Word Basic	
Microsoft Word Document	

Note3: It is very important to make sure that the Apply button is selected after each change made in a DCOM settings page.

4. Under the Default Properties tab, "Enable Distributed COM on this computer" should be checked. Also, ensure that the "Default Authentication level:" is set to "Connect" and the "Default Impersonation Level:" is set to "Identify". Click the Apply button if possible to administer the changes.

Distributed COM Configuration Properties	? ×		
Applications Default Properties Default Security			
Enable Distributed COM on this computer			
The Authentication Level specifies security at the packet level.			
Default Authentication Level:			
Connect			
The Impersonation Level specifies whether applications can determine who is calling them, and whether the application can do operations using the client's identity.			
Default Impersonation Level:			
Identify			
Provide additional security for reference tracking			
OK Cancel App	y		

 Select the Default Security tab and click the "Enable remote connection" box to allow for remote connections then, click the Edit Default... button to view "Default Access Permissions".

Distributed COM Configuration Properties	×
Applications Default Properties Default Security	
Default Access Permissions	
You may edit who is allowed to access applications that do not provide their own settings	
Edit Default	
I Enable remote connection	
OK Cancel Apply	

 Add user group "The World" with "Grant Access" to the permission list. Then select OK. If you are going to connect to a server running on a Win NT/2000 PC as a service you will also need to add "System" with "Grant Access" to the permissions list.

Access Permissions	×
Name	Access Permisssions
SThe World	Grant Access
<u>A</u> dd	OK Cancel

 Choose the Apply button and select the Applications tab. Double click on "KEPware Enhanced OPC/DDE Server". This will access the applications specific DCOM properties

Distributed COM Configuration Properties	? ×
Applications Default Properties Default Security	
Applications:	_
Bitmap Image EventSustemTier2	▲
HTML Application	
Imaging for Windows 1.0	
KEPware Enhanced OPC/DDE Server	
Microsoft Chat Room	
Microsoft Clip Gallery Microsoft NetMeeting Manager Object	
Microsoft Word Basic	
Microsoft Word Document	

8. In the KepserverEx's application specific DCOM window, choose the Location tab.



9. Most clients will allow you to connect directly to the remote PC by entering the Name of the PC in the server connection dialog box. For those applications that do not allow that, Select "Run application on the <u>following computer</u>". Then browse for the remote machine that contains the KepserverEx application and select Apply. In this example the machine name is REMOTE_NT. For local connections you will leave "Run application on the computer where the data is located" checked.

Note4: See Kepware's Client Connectivity guide for information on how specific clients connect remotely to KepserverEx.

Warning: This dialog box will allow you to check more then one check box. When this happens it produces an error state. You must make sure that one and only one box is checked.

KEPware Enhanced OPC/DDE Server Properties			
General Location Security			
The following settings allow DCOM to locate the correct computer for this application. If you make more than one selection, then DCOM uses the first applicable one. Client applications may override your selections.			
Run application on the computer where the data is located			
Run application on this <u>c</u> omputer			
Run application on the <u>f</u> ollowing computer:			
REMOTE_98			
OK Cancel Apply			

10. Choose the Security tab and ensure that the radio buttons for the Access permissions are set to default. Click Apply to accept these changes.

KEPware Enhanced OPC/DDE Server Prop	erties	? ×
General Location Security		
Use default access permissions C Use custom access permissions		
You may edit who can access this application	٦.	
	Edit	

- 11. Choose OK from the bottom of the application specific DCOM display window.
- 12. Choose OK from the bottom of the general DCOM display window.
- 13. Reboot the computer to secure the new DCOM configuration.